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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,079	01/22/2002	Il-Gon Kim	8071-2 (OPP 010219 US)	3893

7590 07/21/2003

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EXAMINER

CHUNG, DAVID Y

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,079

Applicant(s)

KIM ET AL.

Examiner

David Y. Chung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,8-12 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 2-7,13 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 8-12, 15-18 and 20 rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (U.S. 6,462,798).

As to claims 1, 18 and 20, Kim et al. discloses a multi-domain liquid crystal display device with a common auxiliary electrode surrounding the pixel region. Note in figures 8D, 9B, and 9E, substrates 31 and 33, gate line 1, data line 3, gate insulator 35, passivation layer 37, pixel electrode 13, common electrode 17, common auxiliary electrode 15, and dielectric frame 53. The data line 3 is the first signal line, the gate line 1 is the second signal line, and the common auxiliary electrode 15 is the third signal line. The dielectric frame 53 is the domain-defining member. The pixel electrode 13 is divided into a plurality of partitions that are connected as shown in figure 8D. The long side of each partition is parallel to the data line 3 and constitutes the first side. The short side of each partition is parallel to the gate line 1 and constitutes the second side.

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In figure 9B, either portion of the common auxiliary electrode 15 between the pixel electrode 13 and data line 3 can be considered the first portion.

As to claim 8, either portion of the common auxiliary electrode adjacent the short sides of the pixel electrode partitions shown in figure 8D can be considered the second portion. In this embodiment, the common auxiliary electrode is designed to substantially overlap the pixel electrode in order to form an auxiliary capacitance. See figure 9B.

As to claim 9, note the portions of the common auxiliary electrode formed between the pixel electrode partitions in figure 8D.

As to claims 10, Kim et al. discloses that the common auxiliary electrode 15 and common electrode 17 are electrically connected. See column 4, lines 34-40.

As to claims 11 and 12, Kim et al. discloses a multi-domain liquid crystal display device with a common auxiliary electrode surrounding the pixel region. Note in figures 8D, 9B, and 9E, first panel 31, second panel 33, gate line 1, data line 3, first field generating electrode 13, second field generating electrode 17, interference protection wire 15, first domain defining member 51, and second domain defining member 53. The domain-defining members partition the pixel area into a plurality of domains shown in figure 8D, each of which have a first and second side.

As to claim 15, Kim et al. discloses that the inference protection wire 15 and common electrode 17 are electrically connected. See column 4, lines 34-40.

As to claim 16, Kim et al. discloses a pixel electrode 13 formed on the first substrate 31 and a common electrode 17 formed on the second substrate 33. See figure 9B.

As to claim 17, either of the gate or data lines can be considered the signal wire.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (U.S. 6,462,798).

Kim et al. does not disclose that the common auxiliary electrode 15 is spaced apart from the pixel electrode 13 by at least 3 μm . However, it was well known and obvious that this would increase the aperture ratio of the display. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to space

apart the common auxiliary electrode from the pixel electrode by at least 3 μm in order to increase the aperture ration of the display.

Allowable Subject Matter

3. Claims 2-7 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art taught or suggested the liquid crystal display of claim 1, further comprising a second pixel electrode partition having a first side and a second side shorter than the first side, wherein the first and second sides of the second partition are parallel to the second and first signal lines, respectively.


4. Claims 13 and 14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art taught or suggested a liquid crystal display of claim 11, wherein the plurality of partitions include a first partition disposed in one of two halves of the pixel area for dividing that half into two domains and a second and third partition for dividing the other half into three domains.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (703) 306-0155. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.


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GAU 2871
07/13/03